

The

February 1993

The California Academy of Sciences

ACADEMY

NEWSLETTER

DEDICATED TO SCIENTIFIC RESEARCH AND EDUCATION, INSPIRING RESPECT FOR THE NATURAL WORLD

ADULT EDUCATION

UNDISCOVERED TREASURES OF THE MENDOCINO COAST

The Mendocino coast is an excellent place to study the marine biology and coastal ecology of Northern California. The major emphasis of this weekend biology adventure is to explore exceptional areas where tourists are few. Instructor Joe Mueller knows almost every nook and cranny of this area and will lead a full moon hike to call in predators of the night.
March 6-7 (Sat. & Sunday)
Cost: \$75 members/
\$85 non-members

SURVEY OF THE LOWER INVERTEBRATES

Three quarters of all living organisms on our planet are animals without backbones—invertebrates. Using lectures, slide presentations and hands-on labs, Dr. Gary Williams, Academy Assistant Curator, will help us look at these intriguing animals.
February 16-March 9
(4 Tuesdays), 7-9 pm
Cost: \$50 members/
\$60 non-members

CONSERVING BIOLOGICAL DIVERSITY: CASE STUDIES IN DEVELOPMENT

This course will provide an in-depth look at several examples of "conservation for development" which are designed to meet immediate human needs without compromising species diversity and the ability of future generations to meet their own needs. Join Dr. Christopher Potter as he examines the question, "Is biodiversity conservation compatible with economic development?"
February 18 & 25 (2 Thurs.), 7-9 pm
Cost: \$25 members/
\$30 non-members

For more information
call 750-7100.

MEMBERS MEETINGS

VOCAL RECOGNITION IN SEA LIONS: POSSIBLE SOCIAL FUNCTIONS

with Dr. Ronald J. Schusterman

Wednesday, February 10, 2 pm and 7:30 pm

Down on the docks of Fisherman's Wharf, the sea lions fill the air with their raucous calls. But what meaning may these calls have to other sea lions?

Dr. Ron Schusterman of California State University, Hayward and UC Santa Cruz, has been studying the vocal patterns of sea lions for many years. By analyzing behavioral sequences and the structure of vocalizations, as well as performing vocal playback experiments, Dr. Schusterman has found that reciprocal vocal signalling plays an important role in individual recognition. Studying field animals as well as captive sea lions, Dr. Schusterman has found that individual vocal recognition plays a fundamental role in the behavior between female sea lions and their pups, mother-daughter pairs, and between siblings.

Vocal recognition also may be a key factor in the observation that neighboring territorial males interact less aggressively than territorial males who are relative strangers.

In addition to describing these important theories, Dr. Schusterman also will discuss the bonding that occurs between captive sea lions and their human caretakers.

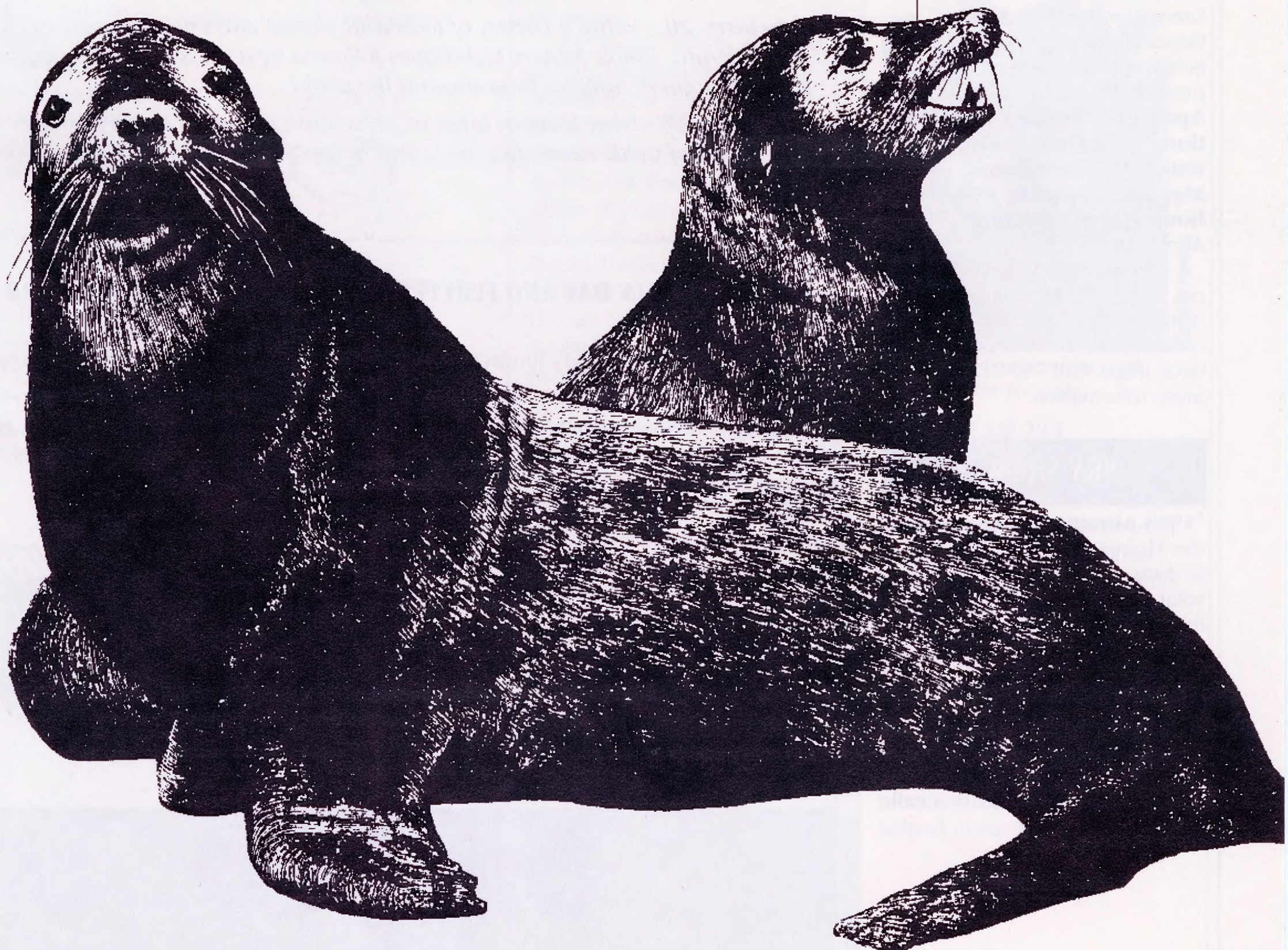
Join us for this scientist's intimate look at the behavior of these charming creatures. The Academy Store will be open before and after each program.

Next month's lecture is on March 10 at 2 & 7:30 pm and will feature Carl Grimm of the San Francisco League of Urban Gardeners who will discuss urban home gardening and composting.

© David M. Barron



Dr. Schusterman greeting one of his study animals.



MORRISON PLANETARIUM

PLANETARIUM CONCERT

February 8 and 9, 7:30 pm



Dr. Fiorella Terenzi

© 1992 RTA

A special concert, "Music From the Galaxies," will be presented in the Planetarium on **February 8 and 9 at 7:30 pm.** Dr. Fiorella Terenzi, an astrophysicist, combines science and art by collecting radio waves from a distant galaxy, converting them into sound and transforming them into music. Her music, performed using a synthesizer, sampler and computer, will be accompanied by the special laser effects of Laser Images.

Dr. Terenzi will describe optical and radio astronomy, explain how she translates astronomical observations into sound for both scientific and musical purposes, and then perform music from her first release, "Music from the Galaxies," available on Island Records.

Tickets are \$10 each and may be purchased by using the coupon on the back page.

EXPLORING THE UNIVERSE

Comets are icy balls of frozen gas and dust that roam the solar system, producing spectacular tails when the heat of the sun evaporates their ice. Recent evidence confirms a new site of origin for comets. On **February 16 at 7:30 pm in Morrison Auditorium**, join Dr. Jane Luu, Research Astronomer at UC Berkeley, when she discusses her findings in "Where Comets Come From: Late Breaking News from the Kuiper Belt."

The series continues with: **March 23—"Russians in Space,"** Dr. Georgi Grechko, Cosmonaut, Hero of Russia, Laboratory for Atmospheric Research, Russian Academy of Sciences. (This lecture will be preceded by a reception.)

April 13—"Voyager Exploration of the Outer Solar System," Dr. Jeffrey Cuzzi.

May 11—"Quasars: Powerhouses of the Universe," Dr. Alex Filippenko.

All programs begin at 7:30 pm in the Planetarium. Most tickets are \$2 each and can be ordered with the coupon on the back page. Call 750-7129 for more information.

SKY SHOWS

"1993 Almanac," continues in the Morrison Planetarium. Comets, meteor showers, and solar and lunar eclipses are just a few of the highlights of this year's celestial events. Shows are at 2 pm on weekdays, and 2 & 4 pm on weekends.

"Planetarium on Parade" continues through June with shows on weekends at 1 & 3 pm. For more show information call 750-7141.

TRADITIONAL ARTS



Glen Morgan plays the hammered dulcimer on February 27.

Join cultures from around the world on Saturdays at 1 pm in Wattis Hall or Morrison Auditorium. Call 750-7164 for more information.

February 6 - No Program.

February 13 - In the spirit of Carnival, join the energetic Brazilian Allstars for a workshop on Brazilian dance. Accompanied by live music, Mestre Beicola will teach audience members the rhythmic steps of the samba and the lambada.

February 20 - Using a variety of tools and woods, carpenter Jan van Arsdale demonstrates simple joinery techniques followed by a cross-cultural comparison of different joinery samples from around the world.

February 27 - Glen Morgan takes us on a musical tour of the British Isles through his medley of Celtic tunes, jigs, reels and hornpipes played on the hammered dulcimer.

CHINESE FAMILY DAY AND FISH FESTIVAL—SUNDAY, FEBRUARY 28, 10 AM-4 PM

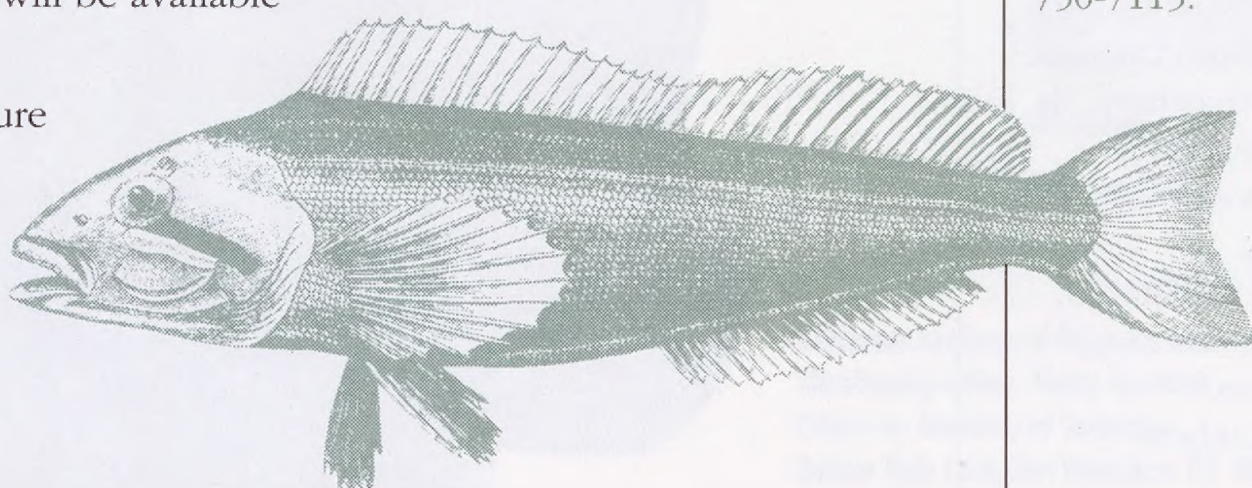
Join us for a day of family fun as the Academy celebrates Chinese Family Day and Fish

Festival. Children under 12 will be admitted free and there will be an exciting fish costume

contest. Special Chinese art activities will be available

as well as shark activities and a treasure

hunt. Come join the fun!

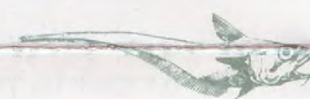


RESEARCH

Dr. J. Patrick Kociolek, Hanna Chair and Associate Curator of Diatoms in the Invertebrate Zoology and Geology Department, has been appointed the Academy's Director of Research. This is a three-and-a-half year appointment overseeing the Academy's eight research departments. Dr. Kociolek succeeds Dr. Terry Gosliner, Senior Curator of Invertebrates, who held this position for three years. The Academy is grateful for Dr. Gosliner's leadership and looks forward to Dr. Kociolek's tenure in this position.



Tomio Iwamoto, Curator of Ichthyology, spent two months studying macrourid fishes (called rattails or Grenadiers) at the J.L.B. Smith Institute, Grahamstown, South Africa and at the South African Museum at Capetown.



Anthony Harold, the recipient of the Tilton Postdoctorate Fellowship, has begun his one-year research project in the Department of Ichthyology.

SEX IN SCIENCE

Members of the Academy's Curators' Circle will have a unique opportunity to learn about sex in science!

The Curators' Circle includes those members who have joined the Academy at the \$100 level. Upgrade or renew now, and you too can be a part of this fun and informative evening which will focus on the reproductive behaviors of all sorts of life forms.

This year the Annual Curators' Circle Reception will be held on Wednesday, March 3 from 6-8 pm. Guests will meet scientists, learn about our Research Departments and enjoy food and wine. For more information, call Brett O'Hara at 750-7115.

YOUNG AUDIENCES presents **Yolanda Rhodes** on Sunday, February 21 at 1 pm. A variety of musical styles which reflect her African-American heritage. This program

GOLD! GOLD! GOLD!

On Wednesday, February 17 from 5:30 pm - 9 pm the Academy celebrates the *RIVER OF GOLD* exhibit with a special evening of adult-oriented, **gold**-related programs. Discover: the nature of **gold** from Dr. Jean DeMouthe, Senior Collections Manager of Geology; **goldmining** techniques; the artistry of **gold** jewelry; film classics from the **golden** age of Hollywood; live marimba music by Boris **Goldmund** Trio; and **golden** oldies music. Take advantage of a **golden** opportunity as all Planetarium tickets will be half-price! All exhibits will be open as well as the Biodiversity Center, the Information Desk, and the Academy Store.

Golden State Cuisine will be available for purchase. Members tickets are \$4 and non-members are \$8. Use the coupon on the back page to order your tickets. Call 750-7007 for more information.

ACADEMY TRAVEL



Barbara Hudler

Alpine bike above Juneau

NATURAL HISTORY ADVENTURE TOURS FOR FAMILIES have a special natural history focus filled with learning opportunities.

JUNEAU BOUND

WITH JOE BRENNAN, JULY 11-18
Eight days of natural history exploration with heli-hiking, kayaking, coastal cruising and brown bear observation.
Trip cost: \$1545 + 482 airfare (14-day advance purchase).
Minimum age: 10 (must have wilderness experience and be accompanied by an adult).

ADVENTURING IN THE SAN JUAN ISLANDS

WITH BOB VAN SYOC, JULY 17-23
Seven days of marine biology with tidepooling, snorkeling, kayaking, biking and whale watching. Trip cost: \$995 + airfare. Minimum age: 6 (must be accompanied by an adult).

ADVENTURING IN HAWAII

WITH DR. TERRY GOSLINER, AUGUST 14-22
Nine days of camping and lodging on Kauai and the Big Island with biking, snorkeling, beach activities and volcano exploration. Trip cost: \$1179 + airfare. Minimum age: 6 (must be accompanied by an adult).
Call 750-7348 for more information.



Charlotte Fiorito

Costume contest winners from the Run to the Far Side.

THEY RAN TO THE FAR SIDE

More than 13,000 runners, many dressed as their favorite Gary Larson cartoon characters, participated in the eighth annual Run to the Far Side on Sunday, November 29th. The event has grown to be one of the ten largest foot races in the U.S. and is the Academy's major public fundraiser. Many thanks to all of the Academy members and volunteers who helped make it possible!

L E C T U R E S

For the following lectures please use the coupon on the back page to order your tickets. Call 750-7128 for recorded lecture information.

The Claire Matzger Lilienthal Distinguished Lecture Series
DR. WADE DAVIS,
"THE HEALING FOREST: THE ETHNOBOTANICAL SEARCH FOR NEW MEDICINES"
THURSDAY, FEBRUARY 11:
RECEPTION- 6 PM,
LECTURE- 7:30 PM

"GOING FOR THE GOLD: THE STORY OF THE 1940 PANAMA EXPEDITION"

TUESDAY, FEBRUARY 16, 7:30 PM
Pamela Hearne, original co-curator of the exhibit *River of Gold: Precolumbian Treasures from Sitio Conte*, will share the exciting story of the excavation of one of the richest burials in the Americas. The location of this discovery was an ancient cemetery on the Rio Grande de Cocle River in central Panama. In 1940, a University Museum archaeological team led by J. Alden Mason, discovered a multiple burial (23 skeletons) filled with masses of pottery, carved bone and whale-tooth ivory, and great quantities of gold ornaments, most of which were associated with one skeleton. The proximity of such a wealth of objects to one individual led the discoverers to believe that the burial was that of a powerful chief in an ancient Panamanian society. Slides will highlight the beauty of the artifacts and the story of Sitio Conte. This is a wonderful opportunity to learn more about this fascinating exhibit currently at the Academy.

MEMBERS \$6 / NON-MEMBERS \$8



© Susan Middleton and David Lindeberger

"APPRECIATING RATTLESNAKES,"

WITH DR. HARRY W. GREENE, TUESDAY, MARCH 16, 7:30 PM
This illustrated lecture will explore the intriguing world of rattlesnakes. Dr. Harry Greene, Curator of Herpetology at UC Berkeley's Museum Of Vertebrate Zoology, will describe the general characteristics of vipers and pitvipers—the larger groups to which rattlesnakes belong. Dr. Greene will examine rattlesnakes' ability to overpower and consume prey up to 150% of their own weight.

After discussing the diversity of rattlesnake biology and the problem of snakebites, Dr. Greene will show how his studies of blacktailed rattlesnakes in Arizona use radiotelemetry to monitor the behavior of these stealthy animals. He also will describe some recent work he has been conducting with endangered rattlesnakes in the Southwest.

Dr. Greene's work on pitvipers was featured in the ABC special "Realm of the Serpent" and in The New York Times.

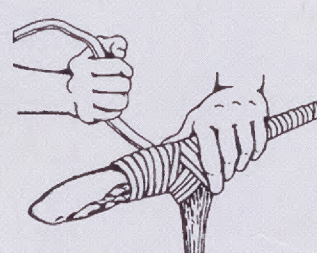
MEMBERS \$6 / NON-MEMBERS \$8

"MAKING SILENT STONES SPEAK"

THURSDAY, MARCH 18, 7:30 PM
For twenty years, Dr. Kathy Schick and Dr. Nicholas Toth have been investigating the archaeological origins of human technology. They spent five years learning to make and use Stone Age tools. It was an unusual, hands-on kind of research—and its results offer stunning insights into the lives of humankind's earliest ancestors.

The results of Drs. Schick's and Toth's research are described in the fascinating book *Making Silent Stones Speak: Human Evolution and the Dawn of Technology*. In a special lecture and booksigning on March 18, these two scientists will show how early tools were made and propose startling new theories about the key role of toolmaking in our evolution from apes to upright, socially organized creatures.

MEMBERS \$6 / NON-MEMBERS \$8



"ANTARCTICA,"

WITH BARRY LOPEZ, DR. BRIAN TOON AND DR. JOHN MCCOSKER, FRIDAY, APRIL 2, 7:30 PM

As part of the Academy of American Poets' "A Language for Nature: Writers on the Environment" series, the California Academy of Sciences is proud to present a special program on Antarctica featuring renowned author Barry Lopez, NASA scientist Brian Toon, and Dr. John McCosker of the Steinhart Aquarium.

The frigid landscape of Antarctica is at once intriguing and formidable. This distant continent feels remote yet is a crucial part of our fragile world.

Barry Lopez is the author of two award-winning books of nonfiction, *Arctic Dreams* and *Of Wolves and Men*, as well as short stories and essays. He has traveled extensively to Antarctica under the auspices of the National Science Foundation's Writers and Artists in Antarctica program.

Dr. Brian Toon is a Fellow of the California Academy of Sciences and is a Senior Staff Scientist at NASA's Ames Research Center. He is considered a world authority on ozone depletion and served on NASA's Airborne Antarctic Ozone Project and its Airborne Arctic Stratospheric Expeditions. He has twice received the NASA medal for Exceptional Scientific Achievement.

Dr. John McCosker, Director of the Academy's Steinhart Aquarium, has traveled extensively to Antarctica as a research scientist in the Southern Ocean and with tours to the area. He has great interest and concern about this intriguing continent.

This program will include presentations by each guest and a thoughtful conversation among the three. Join us for this opportunity to explore this frozen, fascinating area.

MEMBERS \$6 / NON-MEMBERS \$8

talented storyteller, dancer and singer, Ms. Rhodes uses all three formats to explore a is made possible through the SF Grants for the Arts and the McKesson Foundation.

FEBRUARY

1993

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

7

14

21

28

Young Audiences, with Yolanda Rhodes, 1 pm

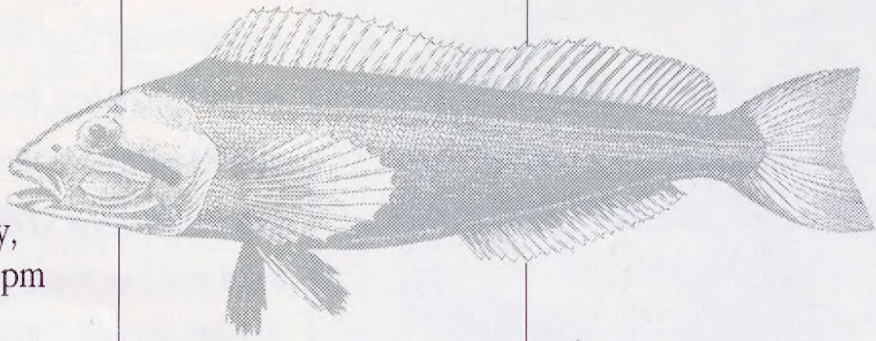
Chinese Family Day, 10 am – 4 pm

1

8 Planetarium Concert, "Music from the Galaxies," 7:30 pm

15

22



2

Douglas Adams in conversation at The Herbst Theatre, 8 pm

9

Planetarium Concert, "Music from the Galaxies," 7:30 pm

16

Exploring the Universe, "Where Comets Come From," 7:30 pm
Lecture, "Going for the Gold," 7:30 pm

23

10

Members Meetings, "Sea Lions," 2 & 7:30 pm

17

Special Evening Event, "Gold! Gold! Gold!," 5:30 – 9 pm

24

4

11

Lecture, "The Healing Forest," Reception 6 pm; Lecture 7:30 pm

18

25

5

12

19

26

6

"Issues in Hominid Evolution," 8:30 am – 5:30 pm. Call 750-7163 for details

13

Traditional Arts, Brazilian Dance, 1 pm

20

Traditional Arts, Wooden Joinery, 1 pm

27

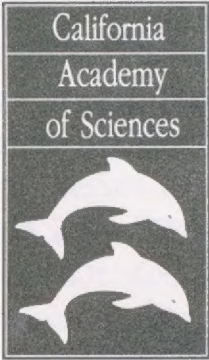
Traditional Arts, Celtic Tunes on Dulcimer, 1 pm



Fishing for Something Special?

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The Academy Store!



VISITOR SERVICES
The Academy is open every day of the year from 10 am to 5 pm.

Academy Information: 750-7145
Academy Store: 750-7330
Admissions: 750-7159
Aquarium: 750-7247
Biodiversity Resource Center: 750-7361
Development Office: 750-7216
Education Office: 750-7100
Group Information: 750-7043
Laserium: 750-7138
Lectures: 750-7128
Lost and Found: 750-7150
Membership Office: 750-7111
Planetarium: 750-7141
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Golden Gate Park
San Francisco, CA 94118-4599

The Academy Newsletter is published monthly for Academy members.
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Editor / Annie Eagan
Graphic Design / Nancy Campana Design
Printing / Fruitridge Printing & Lithograph Inc.

Printed on Recycled Paper with Soy-based Ink

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| LECTURES | | | EXPLORING THE UNIVERSE | | PLANETARIUM CONCERT | |
|-----------------------------------|-------------|-----------------|---------------------------------|----------|---|-----------|
| | Qty/Members | Qty/Non-members | Quantity | Total | Quantity | Total |
| THE HEALING FOREST February 11 | | | | | | |
| Reception & Lecture | x \$ 30 | x \$ 35 = | x \$ 2 = | | MUSIC FROM THE GALAXIES | |
| Lecture Only | x \$ 5 | x \$ 7 = | | | February 8 | x \$ 10 = |
| GOING FOR THE GOLD February 16 | x \$ 6 | x \$ 8 = | x \$ 25 = | | February 9 | x \$ 10 = |
| RATTLESNAKES March 16 | x \$ 6 | x \$ 8 = | (note price) x \$ 5 = | | TOTAL \$ | |
| MAKING STONES SPEAK March 18 | x \$ 6 | x \$ 8 = | VOYAGER EXPLORATION April 13 | x \$ 2 = | SPECIAL EVENING EVENT | |
| ANTARCTICA April 2 | x \$ 6 | x \$ 8 = | QUASARS May 11 | x \$ 2 = | GOLD! GOLD! GOLD! February 17, 5:30 – 9 pm | |
| TOTAL \$ | | | TOTAL \$ | | Members | x \$ 4 = |
| | | | | | Non-members | x \$ 8 = |
| | | | | | TOTAL \$ | |

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Daytime Phone

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